

09683264 - 120504

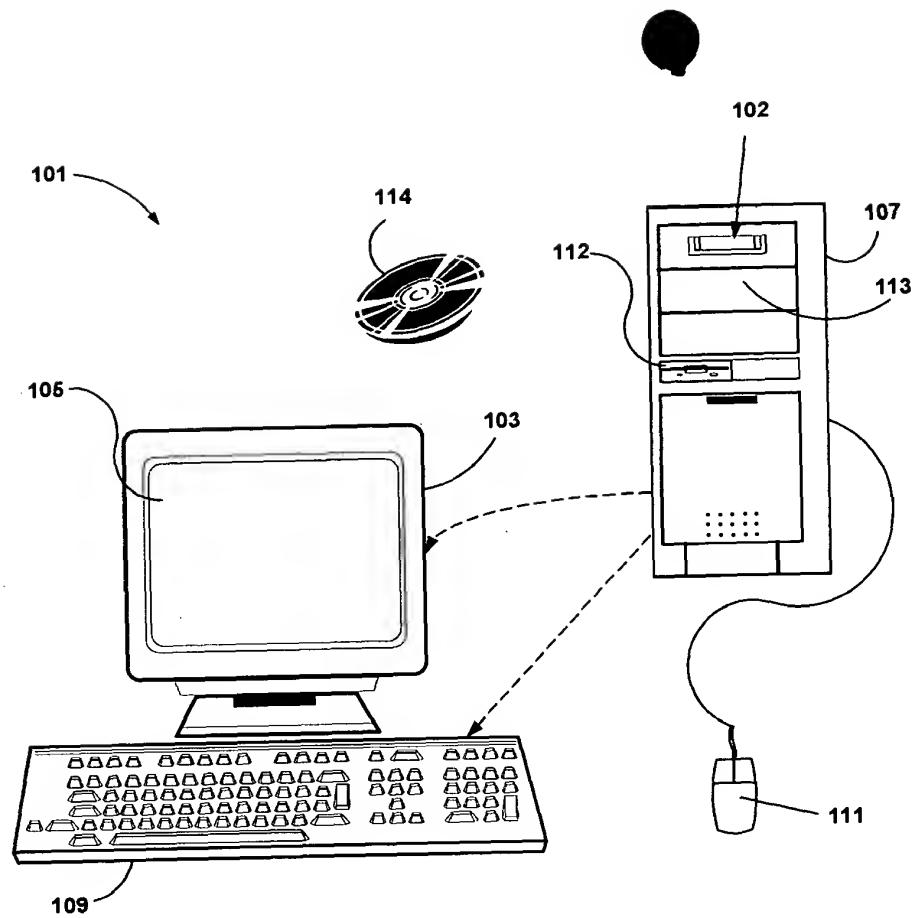


Figure 1

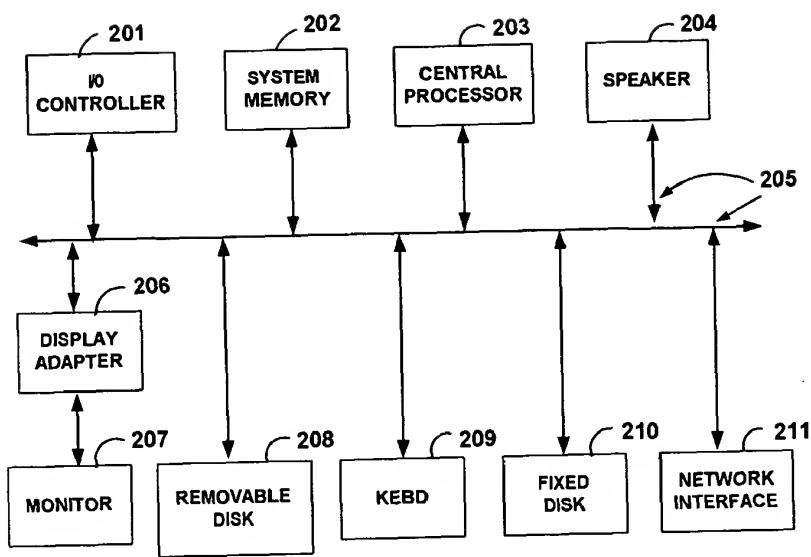


Figure 2

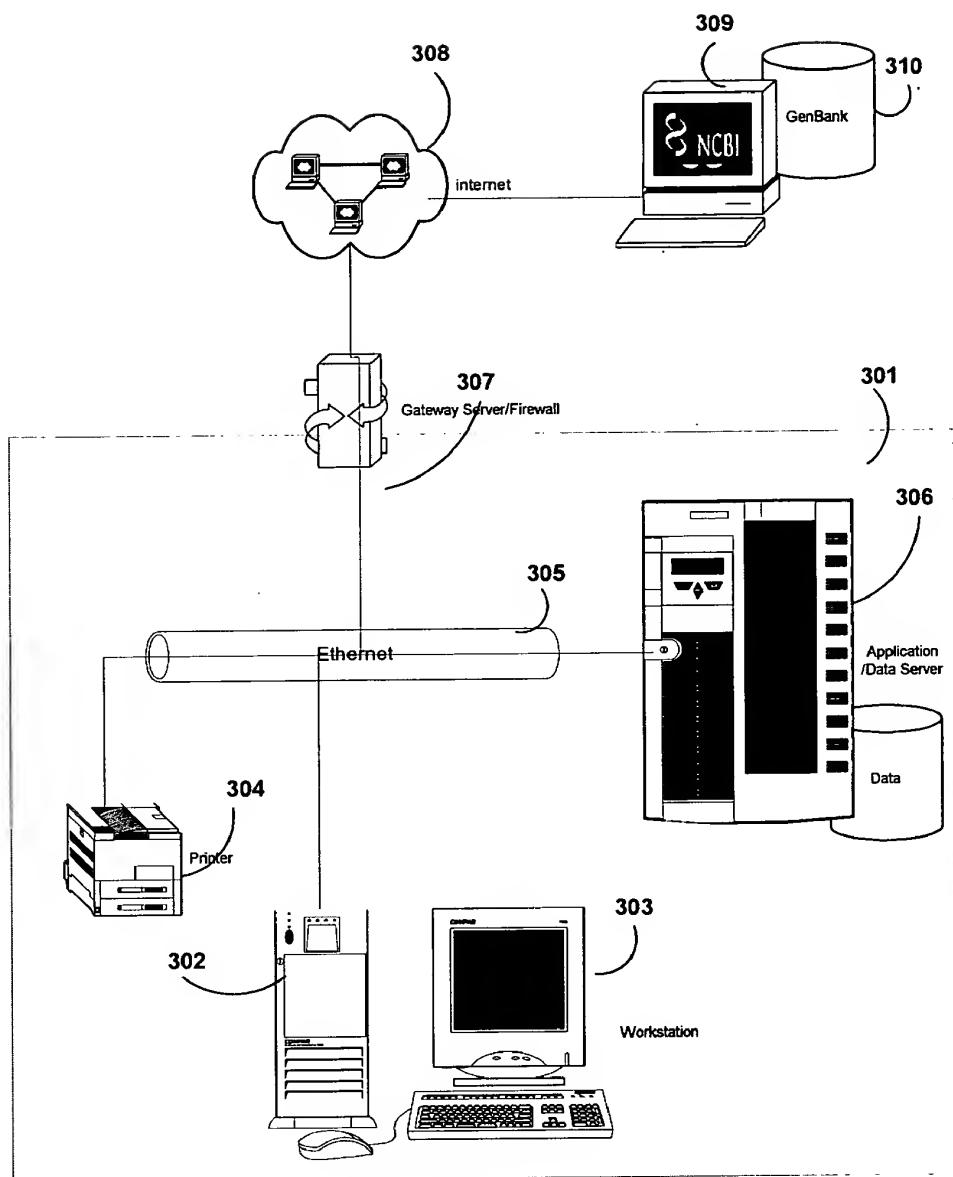


FIGURE 3

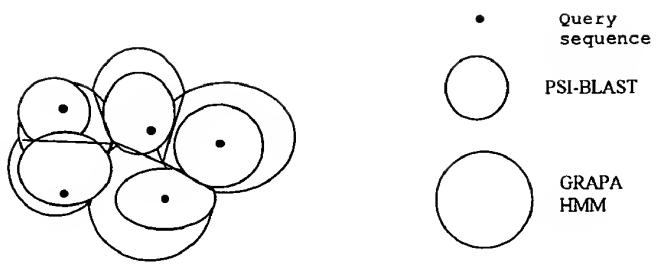


FIGURE 4

09683264 "A20504"

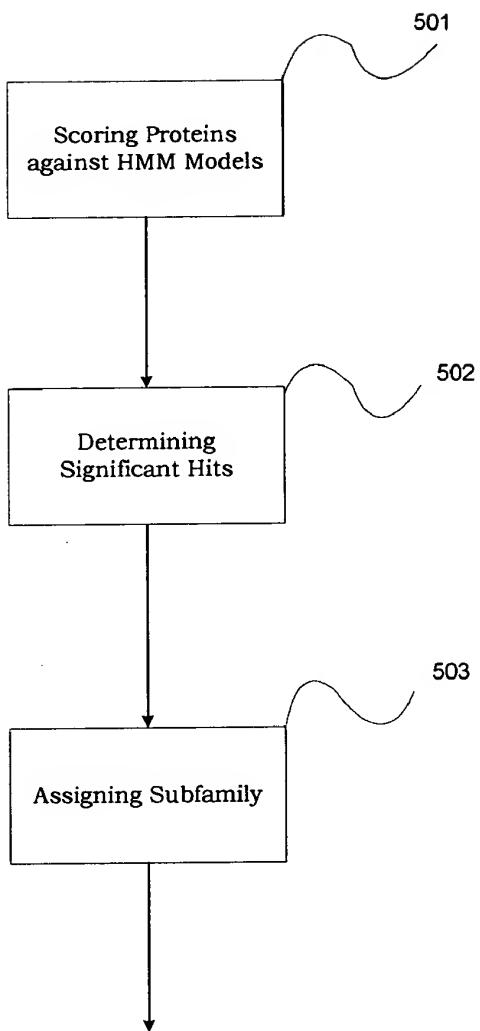


FIGURE 5

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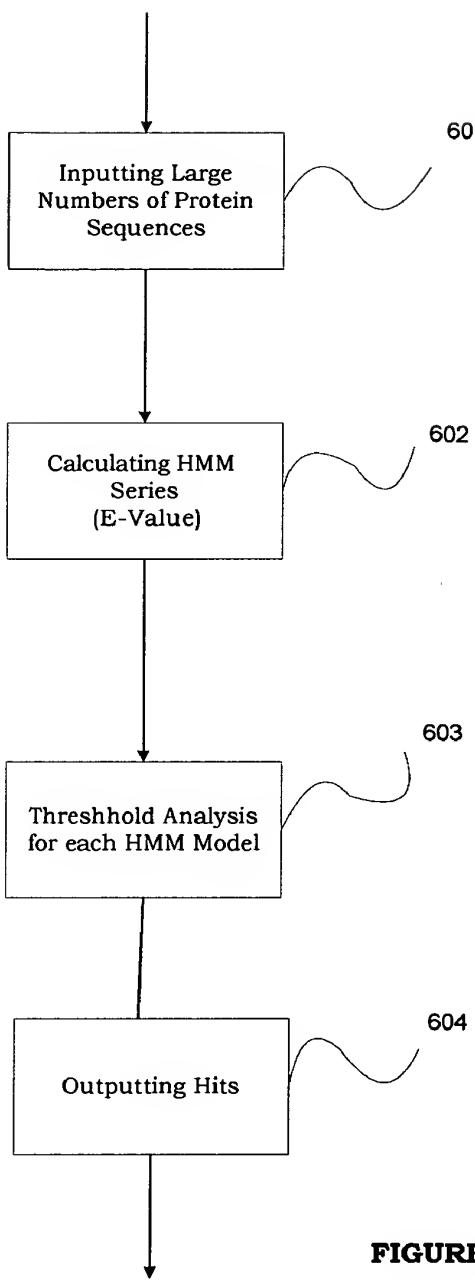


FIGURE 6

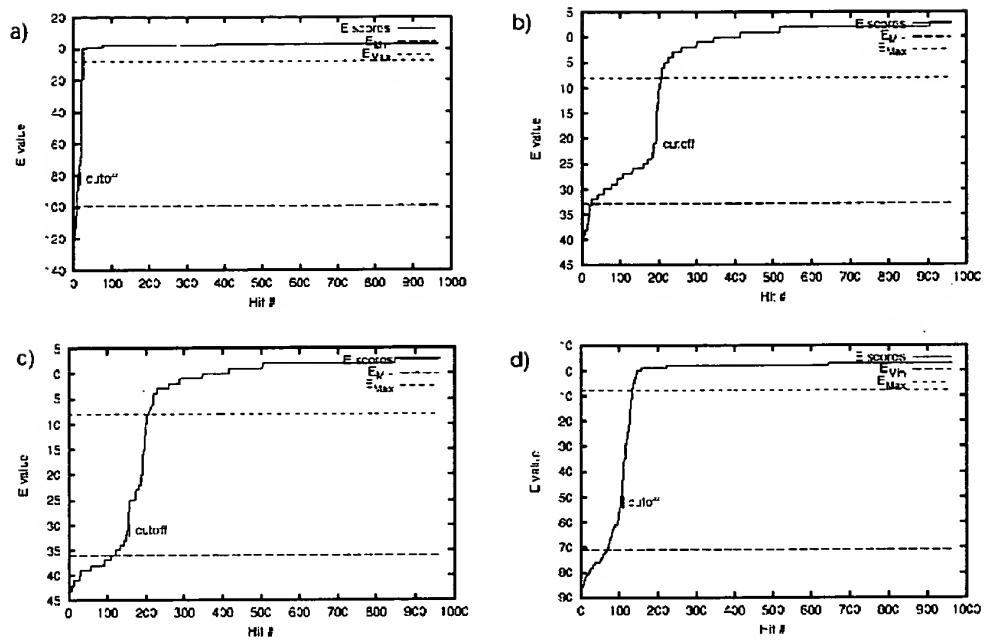
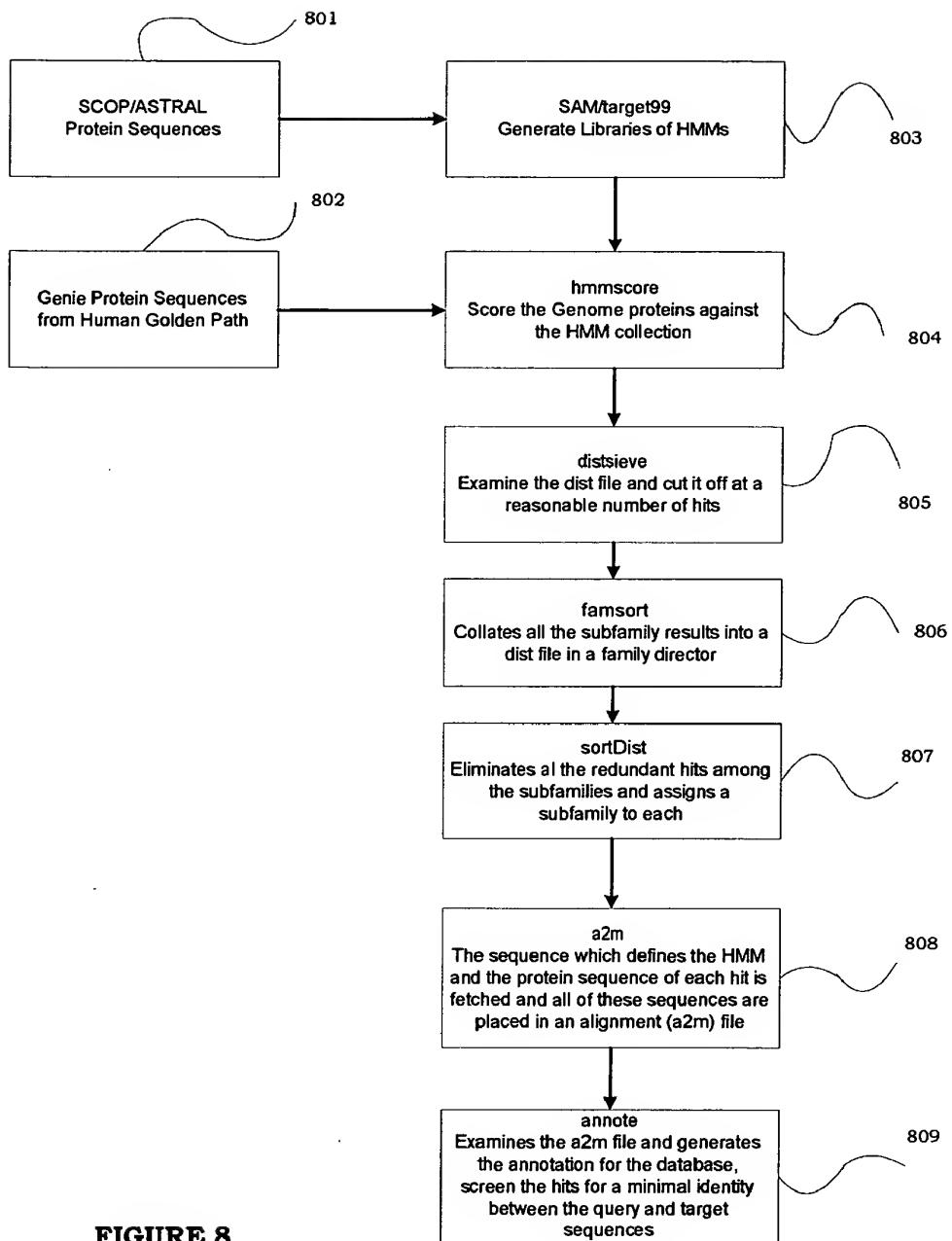


FIGURE 7

**FIGURE 8**

DRAFT - 4/20/2014

Alignment 1:

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1>GRAPAHIT1 1 LLQDSLLRLKDYRQCFCESDVALNEAVQQMVNSGEAAKEEWVATVTQLL
2>1vhr      1 SVQDLNDLSDGSGCYSLPSQPCNE VTPRIYVGNASVAQD IPKLQKL

1>GRAPAHIT1 51 MGIEQALSADSSGSILKVSSSTTGLVRLTNLIQVIDCSMAVQEEAKEPH
2>1vhr      51 GITHVLNAAEGRSFMVNNTAN

1>GRAPAHIT1 101 VSSVLPWIILHRIIWQEEDTFHSLCHQQQLQNPAEEGMSETPMLPSSLML
2>1vhr      101 FYK DSGIT

1>GRAPAHIT1 151 LNTAHEYLGRRSWCCNSDGA LLRFYVRLQKELA A STSEDTHPYKEELET
2>1vhr      151 YLGKA NDTQE FN

1>GRAPAHIT1 201 ALEQCFYCLYSFPSKKSKARYLEEHSAAQV DLIWEDAL FMF EYFKPKTL P
2>1vhr      201 LSAYFERAA

1>GRAPAHIT1 251 EFD SYKTSTVSAD LANLLKRIATIVPR TERPALS LDKV SAYEGTSTE VP
2>1vhr      251 DF IDQALA QKG RVL VH

1>GRAPAHIT1 301 CLPEGADPSPPVNE LYLLADYHFKNKEQS KAIKF YMHDICICPNRF DS
2>1vhr      301 C REGYSRSPTLV IAYLMMR QKMDVKSALSIVRQNREIGPN DG

1>GRAPAHIT1 351 WAGMALARASRIQDKLNSNE LKS
2>1vhr      351 F LAQLCQLNDRLAKEGKLKP

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Alignment 2:

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la17      PPADGALKRAAEELKTQAN-----DYFKAKDYENAIKFYSQAIE
GRAPAHIT2 PLCKQALEDLEKTS GHDPDVATMLNI LALVYRDQNKYKEAAHLLNDAL A
GRAPAHIT3 KDWKGALDAFSAVQDPHSRICFN---IGCMY TILKNMTEAEKAFT RSIN

la17      L-----NPSNAIYYGNRSLAYLRTECYGYALGDATR-AIELDKKYIK
GRAPAHIT2 IREKTLGKDHPAVAATLNNLAVLYGKRGKYKEAEPLCKR-ALEIREKV LG
GRAPAHIT3 R-----DKHLAVAYFQRGM LYQTEKYDLAIKDLKEALIQLRGNQLI

la17      GYYRRAASNMA-----LG-----KFRAALRDYET-----
GRAPAHIT2 KFHPDVAKQLSNLALLCQNQGKAEEVEYYRRALEIYATRL---GPDDP
GRAPAHIT3 DYKILGLQFKLFACEVLYNIAFMYAKKEEWKKAEEQLALATSMKSEPRHS

la17      -VVKVKP-----HDKDAKMKYQECKNKIVKQKAF-----
GRAPAHIT2 NVAKTKNNLASCYLKQGKYQDAETLYKEILTRAHEKEFGSVNGDNKPIWM
GRAPAHIT3 KIDKAMECVWKQKLYEPVVI PVGKLF RPNE RQVAQLAKKDYLGKATVV AS

la17      ---ERAIA-----GDEHKR-----SVVDSL DIESMTIEDEYS
GRAPAHIT2 HAEER EES----KDKR RDSAPYGEYGSWYKACKVDSPTVNTT LR
GRAPAHIT3 VVDQDSFSGFAPLQPQAAEPPPRPKTPEIFRALEG EAHRVLF GFV

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FIGURE 9

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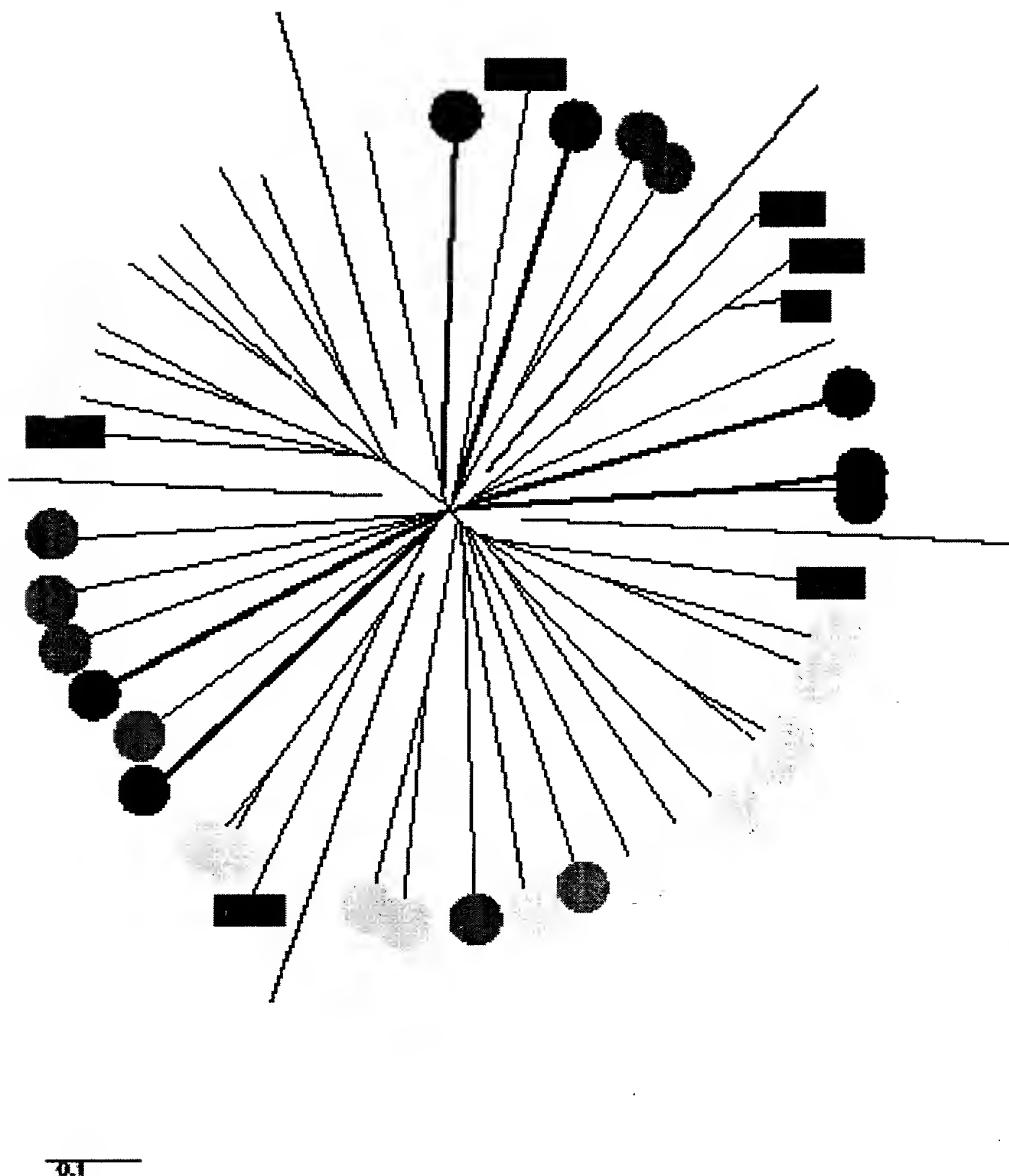


FIGURE 10